# APPENDIX C BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

## ON-SITE SOIL VAPOR WELL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS



10875 Rancho Bernardo Rd, Suite 200 San Diego, CA 92127 Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM: CORE3 10/00

### **BOREHOLE LOG**

**BORING** PVP-1

SHEET 1 OF 1 START DATE 30 Jan 06 Elevation 622.51 FT. MSL

FINISH DATE 30 Jan 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill PROJECT NUMBER SC0233** 

EPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand (SP)5YR 4/4 reddish brown, medium dense, dry.			Surface Completion 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 3 ft. concrete pad (3.75 cubic feet). Within PVC riser is sand (0.01 cubic feet) followed by hydrated granular betonite (0.044 cubic feet). Probe is 1/4 in. OD HDPE tubing with a brass cap installed at the top. A locking cap is installed on top of the PVC riser.	Hand excavate upper 3 feet with shovel.  Resume with dire push.
5 -	Highly Weathered Granitic Rockweathers to silt with sand (ML), 10YR 5/4 yellowish brown, very hard, dry, some medium sand.  Becomes 7.5YR4/3 brown with little 2.5YR 6/8 light red moldling.	/ / / / / / /			
_	Weathers to sandy silt (ML), 10YR 4/3 brown, moist, very hard, medium sand.			Hydrated granular bentonite (0.3 cubic feet)	
15 -	@ 16 ft. becomes moderately to slightly weathered granitic rock 10YR 5/1 gray, moist, very dense, with little medium grained sand.  Total Depth 18'	/ \ / \ / \ / \		Dry granular bentonite (0.022 cubic feet) # 3 Sand filter pack (0.022 cubic feet) Porous synthetic probe tip.	Refusal at 18' removed sample and attempted to push deeper with drop point and casing. Unable t
	Veryl Wittig Professional Geologist No. 7115				advance deeper than 18'.
EQUIP DRILL DIAME	PMENT Geoprobe 6600 EA: MTHD Direct Push AN	STING GLE ARING	3 32.96 -117.0 Vertic  29 Ju	coordinate system:	I



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GS FORM: CORE3 10/00

### **BOREHOLE LOG**

BORING PVP-1A

Elevation 622.00 FT. MSL

SHEET 1 OF 1

START DATE 20 Mar 06 FINISH DATE 20 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

EPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand (SP)5 YR 4/4 reddish brown, medium density, fine to medium grained sand, dry, no odor.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 3 ft. concrete pad (3.75 cubic feet). Within PVC riser is 6 in. of sand (0.01 cubic feet) overlying 2 ft. of hydrated granular betonite (0.044 cubic feet), probes are 1/4 in. OD HDPE tubing.	
5 -	Highly Weathered Granitic Rockweathers to silt with sand (ML), 10 YR 5/4 yellowish brown, very hard, fine to medium grained sand.			Hydrated granular bentonite (0.066 cubic feet)  Dry granular bentonite (0.044 cubic feet)  Sand filter pack (0.022 cubic feet)	
- 10 - - -	@ 9 ft. becomes 7.5 YR 4/3 brown, moist.  @ 10 ft. weathers to silty sand (ML), 10 YR 4/3 brown, medium sand, moist.			6 in. stainless steel mesh probe tip.	
15 - -	@ 15 ft. becomes with trace cobbles.	/ \ / \ / \			
-	Moderately Weathered Granitic Rock weathers to poorly graded sand (SP), 10 YR 5/1 gray, few cobles. little silt, mdeuim grained sand, dense.	/\			
	Total Depth = 19 ft.				
	Veryl Wittig Professional Geologist No. 7115				

**EQUIPMENT** Geoprobe 6600 DRILL MTHD Direct Push DIAMETER 2" LOGGER C. Gale

**EASTING** -117.02 ANGLE Vertical BEARING -----REVIEWER V. Wittig PRINTED 29 Jun 06

hydrated granular bentonite to build soil vapor well.

**COORDINATE SYSTEM:** 



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GS FORM: CORE3 10/00

DRILL MTHD Direct Push

DIAMETER 2"

LOGGER C. Gale

### **BOREHOLE LOG**

BORING PVP-2A/2B

SHEET 1 OF 1 Elevation 613.46 FT. MSL

START DATE 30 Jan 06 FINISH DATE 30 Jan 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
<u>-</u>	Poorly Graded Sand with Gravel (SP\$YR 4/3 reddish brown, medium dense, dry, trace silt, no odor.			Surface Completion 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 3 ft. concrete pad (3.75 cubic feet). Within PVC riser is sand (0.01 cubic feet) followed by hydrated granular betonite (0.044 cubic feet). Probes are 1/4 in. OD HDPE tubing with brass caps installed at the top. A locking cap is installed on top of the PVC riser.	Hand excavated upper 3' with shovel.
5 -	Poorly Graded Sand (SP) 0YR 2/4 dark yellowish brown, medium dense, dry, trace silt.			Hydrated granular bentonite (0.066 cubic feet)	Resume with dire push.
	Becomes 10YR 3/3 dark brown, loose, dry.			Dry granular bentonite (0.022 cubic feet)	
	Highly Weathered Granitic Rockweathers to silt (ML), 5YR 3/3 dark reddish brown, very stiff, dry, trace medium sand, with little clay.	/ \ / \ / \		Sand filter pack (0.022 cubic feet) Porous synthetic probe tip.	
10 -				Hydrated granular bentonite (0.066 cubic feet)  Dry granular bentonite (0.022 cubic feet)  Sand filter pack (0.022 cubic feet)	
-	Total Depth 13'	, \		Porous synthetic probe tip.	
	Veryl Wittig Professional Geologist No. 7115				

Vertical

29 Jun 06

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

**ANGLE** 

REVIEWER V. Wittig PRINTED

BEARING -----



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GS FORM: CORE3 10/00

DRILL MTHD Direct Push

DIAMETER 2"

LOGGER C. Gale

**ANGLE** 

REVIEWER V. Wittig PRINTED

BEARING -----

Vertical

29 Jun 06

COORDINATE SYSTEM:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

### **BOREHOLE LOG**

**BORING** PVP-3A/3B

SHEET 1 OF 1 START DATE 30 Jan 06 Elevation 621.31 FT. MSL

FINISH DATE 30 Jan 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

	-	
PROJECT	NUMBER	SC0233

EPTH (ft)	H MATERIAL DESCRIPTION		PROBE LOG	Probe Construction Material	COMMENTS
	Poorly Graded Sand (SP)2.5YR 4/3 reddish brown, medium sand, medium dense, dry.			Surface Completion 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 3 ft. concrete pad (3.75 cubic feet). Within PVC riser is sand (0.01 cubic feet) followed by hydrated granular betonite (0.044 cubic feet). Probes are 1/4 in. OD HDPE tubing with brass cap installed at the top. A locking cap is installed on top of the PVC riser.	Hand excavated upper 3' with shovel.
5 -	@ 4 ft. becomes 2.5Y 5/3 brown, medium sand, loose, dry.				Resume with dir push.
-	Highly Weathered Granitic Rockweathers to silty sand (SM), 2.5YR 4/6 red, dense, dry.	/ \		Hydrated granular bentonite (0.11 cubic feet)	
10 -	@ 10ft. becomes 2.5YR 6/3 light reddish			Dry granular bentonite (0.022 cubic feet)  Sand filter pack (0.022 cubic feet)  Porous synthetic probe tip.	
	brown.	/ / / / /		Hydrated granular bentonite (0.066 cubic feet)	
	@ 13 ft. becomes 5YR 5/6 yellowish red.	/ \ / \		Dry granular bentonite (0.022 cubic feet) Sand filter pack (0.022 cubic feet)	
15 -	Total Depth 15'	,		Porous synthetic probe tip.	
	Veryl Wittig Professional Geologist No. 7115				



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### **BOREHOLE LOG**

**BORING** PVP-4A

Elevation 613.85 FT. MSL

SHEET 1 OF 1

START DATE 20 Mar 06 FINISH DATE 20 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

	CC	DRE3 10/00	BUKEHUI		JG	PROJECT NUMBER SC0233	
	DEPTH (ft)		MATERIAL ESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
	5 -	brown, dry, fine to loose.  @ 4 ft. becomes :	iand (SP)2.5 YR 4/3 reddish o medium grained sand,  2.5 YR 5/3 brown.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet).  Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.  Hydrated granular bentonite (0.044 cubic feet)  Dry granular bentonite (0.044 cubic feet)	
W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNIEC.GDT 29/6/06	-	to sitty sand (SM) mottling, dry, med sand.	nered Granitic Roc weathers, 2.5 YR 4/4 red with little dium dense, medium grained tal Depth = 8 ft.		1. 1. 1. 1.	Sand filter pack (0.022 cubic feet) 6 in. stainless steel mesh probe tip.	
VV/VVELL I		∣ ГRACTORCasca PMENT Geopr		RTHING STING	32.96 -117.0	REMARKS:	

**EQUIPMENT** Geoprobe 6600 **EASTING** -117.02 DRILL MTHD Direct Push **ANGLE** Vertical DIAMETER 2" **BEARING** LOGGER C. Gale **REVIEWER V. Wittig PRINTED** 29 Jun 06

**COORDINATE SYSTEM:** 



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GS FORM: CORE3 10/00

DIAMETER 2"

LOGGER C. Gale

### **BOREHOLE LOG**

BORING PVP-4B

Elevation 613.88 FT. MSL START DATE 20 Mar 06

SHEET 1 OF 1

FINISH DATE 20 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill PROJECT NUMBER SC0233** 

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
5	Poorly Graded Sand (SP)2.5 YR 4/3 reddish brown, dry, fine to medium grained sand, loose.  @ 4 ft. becomes 2.5 YR 5/3 brown.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet).  Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	
-	Extremely Weathered Granitic Rockweathers to silty sand (SM), 2.5 YR 4/4 red with little mottling, dry, medium dense, fine to medium grained sand.			Hydrated granular bentonite (0.154 cubic feet)	
10 -				Dry granular bentonite (0.044 cubic feet)  Sand filter pack (0.022 cubic feet)	
-	@ 13 ft. becomes moist.  Total Depth = 13 ft.	, \		6 in. stainless steel mesh probe tip.	
	Veryl Wittig Professional Geologist No. 7115				

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

BEARING -----

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### **BOREHOLE LOG**

**BORING** PVP-5

SHEET 1 OF 1 START DATE 20 Mar 06 Elevation 638.76 FT. MSL

FINISH DATE 20 Mar 06

PROJECT Evaluation Monitoring Program

**LOCATION Poway Landfill** PROJECT NUMBER SC0233

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand (SP)2.5 YR 5/3 brown, fine to medium sand, loose, moist.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet). Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	
5 —	@ 3.25 ft. becomes 2.5 YR 4/3 reddish brown dry.			Hydrated granular bentonite (0.011 cubic feet) Dry granular bentonite (0.011 cubic feet) Sand filter pack (0.022 cubic feet) 6 in. stainless steel mesh probe tip.	
3	Total Depth = 5 ft.				
		_			
I	Veryl Wittig Professional Geologist No. 711	5			
EQUIP	PMENT Geoprobe 6600	NORTHING EASTING ANGLE	-117.0		•



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### **BOREHOLE LOG**

**BORING** PVP-6

SHEET 1 OF 1 START DATE 20 Mar 06 Elevation 708.05 FT. MSL

FINISH DATE 20 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill PROJECT NUMBER SC0233** 

EPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
t	Extremely Weathered Granitic Rockweathers to sandy silt with gravel (ML) 2.5 YR 4/3 reddish brown, moist, firm, few angular gravel.	′	<u> स्टब्स्ट्र्स्ट्र्स्ट्र्स्ट्र्स्</u>	Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet). Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	
1 0	@ 2.5 ft. weathers to poorly graded sand (SP) 10 YR 5/4 yellowish brown, dry, medium dense, medium grained sand, few angular gravel.	/ / \ / \ / \ / \		Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)  Sand filter pack (0.022 cubic feet)  6 in. stainless steel mesh probe tip.	
5 - 10	@ 4.75 ft. becomes 10 YR 5/1 gray, medium t coarse grained sand, with angular gravel.	.0			
V P	/eryl Wittig Professional Geologist No. 711	5			
EQUIPI DRILL I	MENT Geoprobe 6600 E MTHD Direct Push	NORTHING EASTING ANGLE	-117.0 Vertic	02	
CONTR EQUIPI DRILL I	RACTORCascade N MENT Geoprobe 6600 E MTHD Direct Push	NORTHING EASTING ANGLE BEARING	-117.0 Vertic	cal COORDINATE SYSTEM:	



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GS FORM: CORE3 10/00

### **BOREHOLE LOG**

**BORING** PVP-7A

SHEET 1 OF 1 Elevation 644.83 FT. MSL

START DATE 21 Mar 06 FINISH DATE 21 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand with Gravel (COVER FILL) 10 YR 5/4 yellowish brown, moist, medium grained sand, angular gravel, with little clay.  @ 1.5 ft. becomes dry.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet). Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	Top 3 ft. dug ou with post hole digger and dig b
5 -	@ 3 ft. becomes 10 YR 5/1 gray.  @ 4 ft. becomes 10 YR 5/1 gray, moist, medium grained sand, medium dense, with little gravel.				Resume with Dirig.
-	@ 6.5 ft. becomes 10 YR 5/4 yellowish brown, moist, medium grained sand, medium dense, with some clay. @ 6.75 ft. becomes 10 YR 5/1 gray, moist, medium grained sand, medium dense.				
10 -	Waste Fill 10 YR 4/1 dark gray, loose, mild odor, municipal waste interbedded with poorly graded sand with gravel, 10 YR 5/4 yellowish brown, medium grained sand, medium density.			Hydrated granular bentonite (0.242 cubic feet)	
15 -	@ 13.5 ft. with some organic material; slight odor.			Dry granular bentonite (0.044 cubic feet)	
_	@ 16 ft. becomes mostly organic material.			Sand filter pack (0.022 cubic feet) 6 in. stainless steel mesh probe tip.	
-	Total Depth = 17 ft.				
	Veryl Wittig Professional Geologist No. 7115				
EQUIF	PMENT Geoprobe 6600 EA	RTHING STING GLE	32.96 -117. Vertic	02	I



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GS FORM: CORE3 10/00

### **BOREHOLE LOG**

**BORING** PVP-7B

SHEET 1 OF 3 Elevation 644.80 FT. MSL

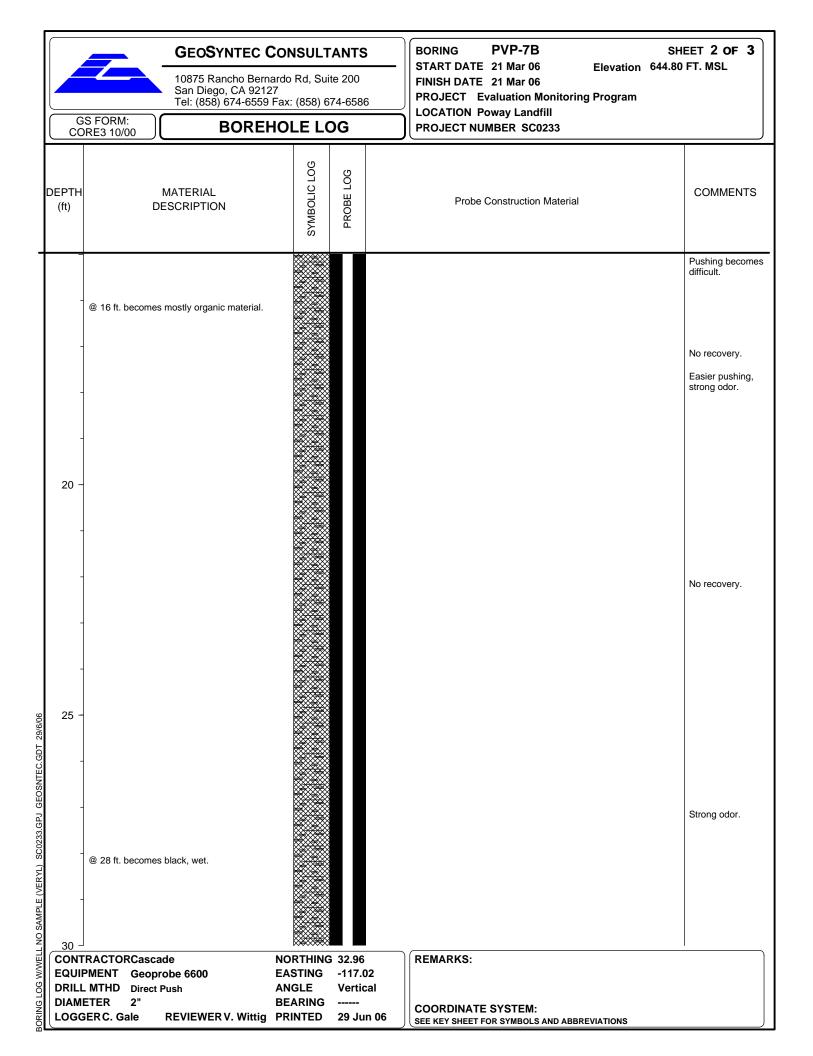
START DATE 21 Mar 06 FINISH DATE 21 Mar 06

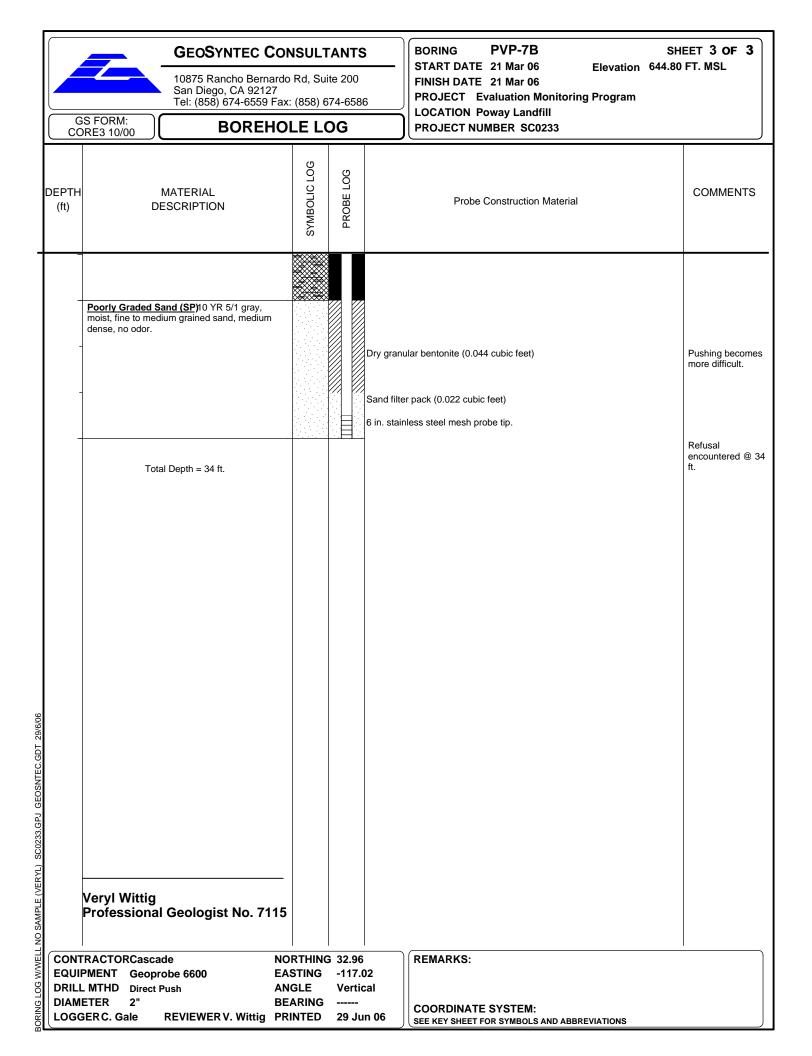
**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

PROJECT NUMBER SC0233

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG		Probe Construction Material	COMMENTS
-	Poorly Graded Sand with Gravel (COVER FILL) 10 YR 5/4 yellowish brown, moist, medium grained sand, angular gravel, with little clay.			Surface C concrete   Within PV granular b	completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. bad (4 cubic feet).  C riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	Dig to 3 ft. with post hole digger and dig bar
-	@ 1.5 ft. becomes dry.					
-	@ 3 ft. becomes 10 YR 5/1 gray.					Resume with DF rig.
5 -	@ 4 ft. becomes 10 YR 5/1 gray, moist, medium grained sand, medium dense, with little gravel.					
-	@ 6.5 ft. becomes 10 YR 5/4 yellowish brown, moist, medium grained sand, medium dense, with some clay. @ 6.75 ft. becomes 10 YR 5/1 gray, moist, medium grained sand, medium dense.					
10 -	Waste Fill 10 YR 4/1 dark gray, loose, mild odor, municipal waste interbedded with poorly graded sand with gravel, 10 YR 5/4 yellowish brown, medium grained sand, medium density.			Hydrated	granular bentonite (0.616 cubic feet)	
15 -	@ 13.5 ft. with some organic material; slight odor.					
CONT	RACTORCascade NC	ORTHING	32.96 -117.0		REMARKS:	
	MTHD Direct Push AN	NGLE EARING	Vertic			
	GERC. Gale REVIEWERV. Wittig PR		29 Ju	n 06	COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS	







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GS FORM: CORE3 10/00

### **BOREHOLE LOG**

**BORING PVP-8** 

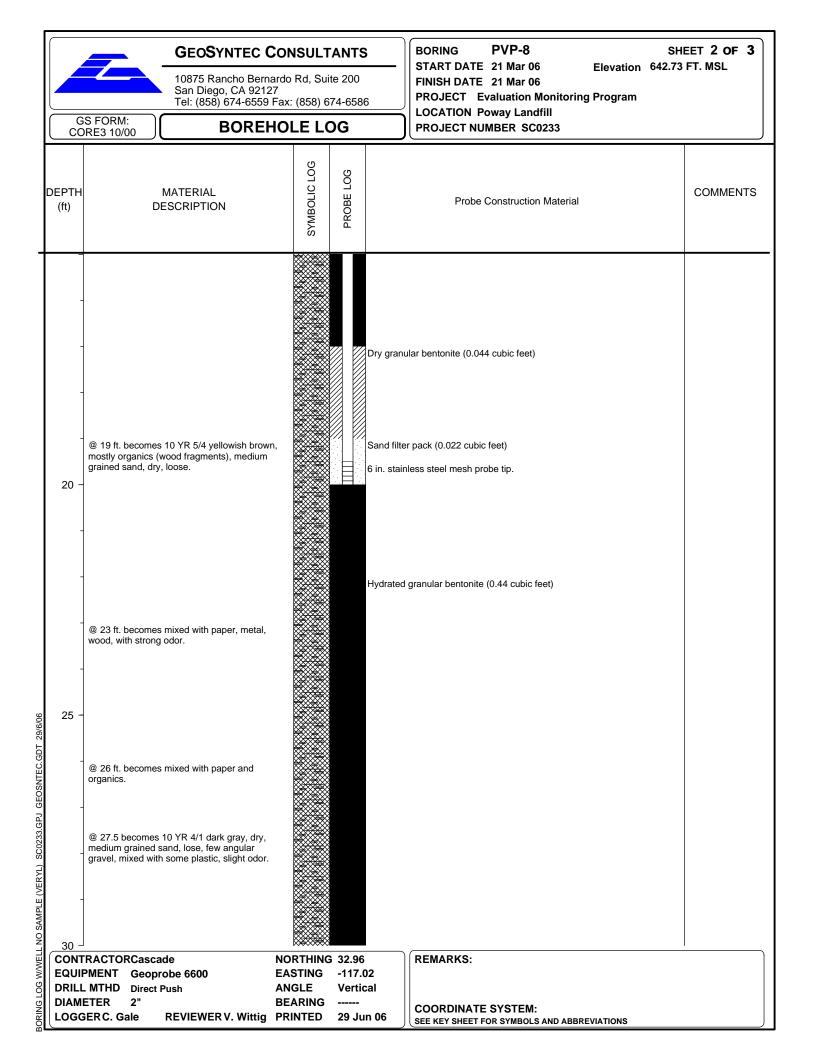
SHEET 1 OF 3 Elevation 642.73 FT. MSL

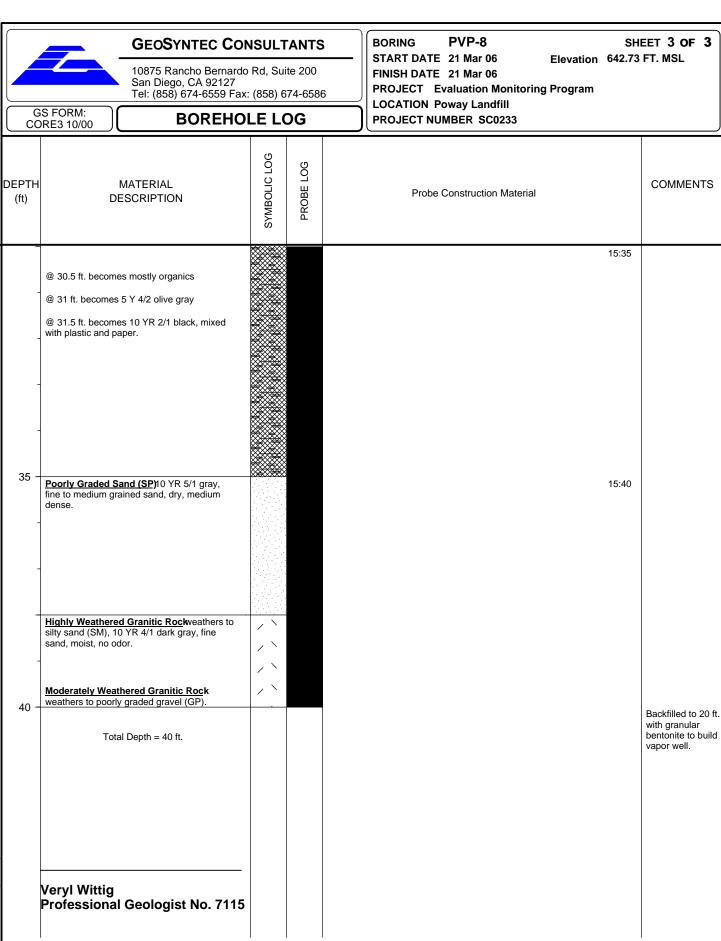
START DATE 21 Mar 06 FINISH DATE 21 Mar 06

**PROJECT** Evaluation Monitoring Program

LOCATION Poway Landfill
PROJECT NUMBER SC0233

Probe Construction Material  Probe Construction Material  Probe Construction Material  Probe Construction Material  Suffice Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 3 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. Surface Completion, 7 in steel vaulu. 3 ft. of 4" PVC item, in a 5 ft. by 4 ft. Surface Comple	CORE3 10/00 BOREF		HOLE L	<u> </u>	PROJECT NUMBER SC0233	
ELLI, 10 YR 5/4 yellowish brown, molet, medium grained sand, angular gravel, with clay.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet) overlying 2 ft. of hydrated dry.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet) overlying 2 ft. of hydrated granular betrofite (0.15 cubic feet), when is 1/4 in. OD HDPE tubing.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet) week in 1/4 in. OD HDPE tubing.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet) week in 1/4 in. OD HDPE tubing.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet) week in 1/4 in. OD HDPE tubing.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet) week in visual (0.044 cubic feet) week in 1/4 in. OD HDPE tubing.  ### Connectes pad (4 cubic feet) week in visual (0.044 cubic feet)	DEPTH (ft)		SYMBOLIC LOG	PROBE LOG	Probe Construction Material COMMENTS	
Waste Fill 10 YR 4/1 dark gray, dry, medium grained sand, loose, mild paint-like old year. A standard sand, loose, mild paint-like old year. A standard sand, so with the poorty graded sand, and standard sand, moist, medium dense.  Hydrated granular bentonite (0.3 cubic feet)  Hydrated granular bentonite (0.3 cubic feet)  Fig. 14 ft. becomes 10 YR 2/1 black, dry, loose, strong odor.  NORTHING 32.96 EASTING -117.02 BEARING -117.02 BEARING -117.02 BEARING -117.02 BEARING -117.02 BEARING -117.02 COORDINATE SYSTEM:	-	FILL) 10 YR 5/4 yellowish brown, moist, medium grained sand, angular gravel, with		<u> </u>	Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet).  Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	
Waste FIII 10 TK 4/1 dark gray, day, medium grained sand, gray and pain-like odor, interbedded with poorly graded sand, 10 YR 2/3 yellowish brown, medium grained sand, moist, medium dense.  Hydrated granular bentonite (0.3 cubic feet)  Hydrated granular bentonite (0.3 cubic feet)  ### Hydrated granular bentonite (0.3 cubic feet)  ### Hydrated granular bentonite (0.3 cubic feet)  ### CONTRACTORCascade  ### NORTHING 32.96  ### EQUIPMENT Geoprobe 6600  ### EASTING -117.02  ### ANGLE Vertical BEARING	-	@ 3 ft. becomes 10 YR 5/1 gray.			15:00	
# Hydrated granular bentonite (0.3 cubic feet)  @ 14 ft. becomes 10 YR 2/1 black, dry, loose, strong odor.  CONTRACTORCascade NORTHING 32.96 EQUIPMENT Geoprobe 6600 EASTING -117.02 DRILL MTHD Direct Push ANGLE Vertical BEARING	5 -	grained sand, loose, mild paint-like odor, interbedded with poorly graded sand, 10 Y 5/4 yellowish brown, medium grained sand	r 💥			
Strong odor.  CONTRACTORCascade NORTHING 32.96 EQUIPMENT Geoprobe 6600 EASTING -117.02 DRILL MTHD Direct Push ANGLE Vertical DIAMETER 2" BEARING LOGGERG Color REVIEWERY Wittig PRINTED 20 Jun 06	10 -	@ 14 ft. becomes 10 YR 2/1 black, dry, lo	ose,		Hydrated granular bentonite (0.3 cubic feet)	
EQUIPMENT Geoprobe 6600 EASTING -117.02  DRILL MTHD Direct Push ANGLE Vertical  DIAMETER 2" BEARING  LOGGERG Color REVIEWERY Wittig PRINTED 20 Jun 06	15 -					
DRILL MTHD Direct Push ANGLE Vertical DIAMETER 2" BEARING LOGGERG Colo BEVIEWERY Wittig PRINTED 20 Jun 06						
LOGGERC Colo DEVIEWERY Wittin PRINTED 20 IUD 06	DRILL	L MTHD Direct Push	ANGLE	Vertic		





CONTRACTORCascade NORTHING 32.96
EQUIPMENT Geoprobe 6600 EASTING -117.02
DRILL MTHD Direct Push ANGLE Vertical
DIAMETER 2" BEARING -----LOGGERC. Gale REVIEWER V. Wittig PRINTED 29 Jun 06

BORING LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06

REMARKS:

COORDINATE SYSTEM:



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GS FORM: CORE3 10/00

### **BOREHOLE LOG**

**BORING** PVP-9

SHEET 1 OF 3 Elevation 642.10 FT. MSL START DATE 22 Mar 06

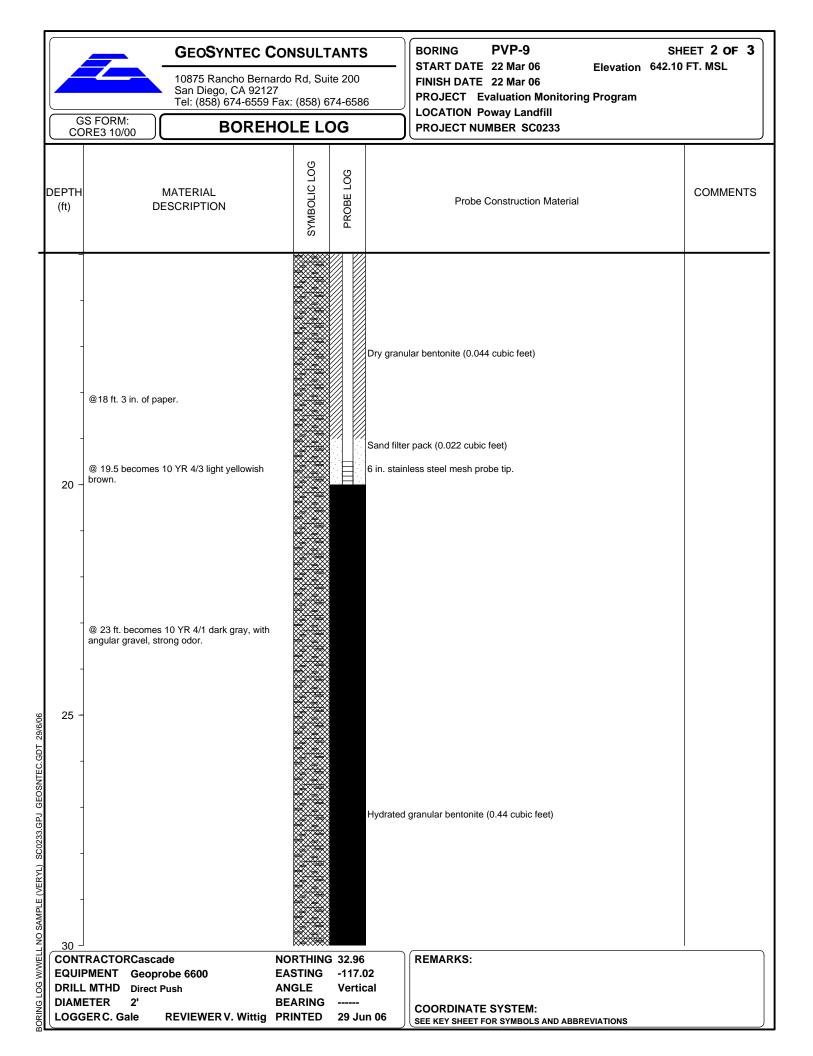
FINISH DATE 22 Mar 06

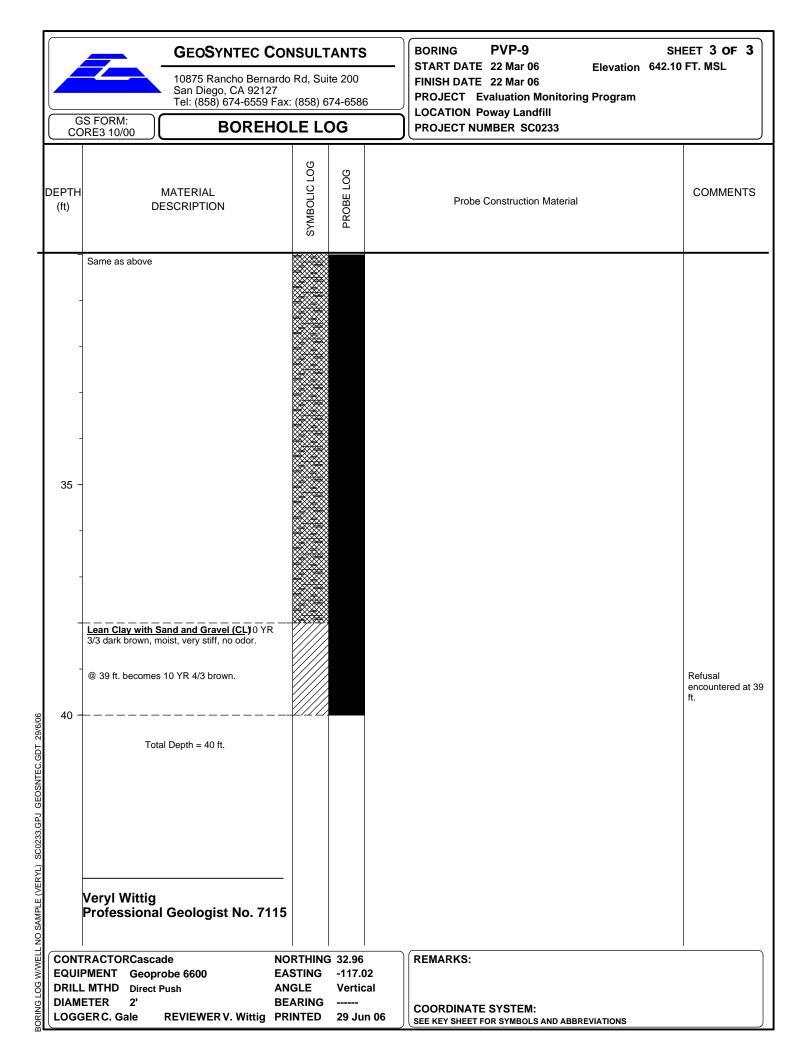
**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

PRO.	IECT	NUMBER	SC0233

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand with Gravel (COVER FILL) 10 YR 4/3 light yellowish brown, moist, fine to medium grained sand, medium dense, with some angular gravel and clay.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet). Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	Post hole digger and dig bar used 3 ft.
-	@ 3 ft. becomes 10 YR 5/1 gray, dry.				Resumed with DF
5 -	Waste Fill 10 YR 2/1 black, loose, dry, fine to medium grained sand, paint-like odor, mixed with plastic, organics and glass, interbedded with silty sand (fill), 10 Yr 3/3 dark brown, moist, medium dense, fine to medium grained sand with litle gravel and silt.				
10 -				Hydrated granular bentonite (0.3 cubic feet)	Strong odor.
15	<ul> <li>@ 13.5 becomes 10 YR 5/4 yellowish brown, with plastic and glass</li> <li>@ 14.5 becomes 10 YR 2/1 black, with glass, plastic, and organics.</li> </ul>				Strong odor.
CONT	RACTORCascade NC PMENT Geoprobe 6600 EA	ORTHING ASTING	32.96 -117.0 Vertic	02	







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GS FORM: CORE3 10/00

DIAMETER 2"

LOGGER C. Gale

### **BOREHOLE LOG**

**BORING** PVP-10A

START DATE 22 Mar 06

Elevation 643.12 FT. MSL

SHEET 1 OF 1

FINISH DATE 22 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

	DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
	-	Poorly Graded Sand with Gravel (COVER FILL) 10 YR 5/4 yellowish brown, moist, medium grained sand, angular gravel, little cobbles and clay.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet). Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	Post Hole Digger and Dig Bar used to 3 ft. on 3/21/06.
	- 5 - -	@ 3 ft. becomes 10 YR 5/1 gray.  @ 4 ft. becomes 10 YR 5/3 brown, dry, soft, fine grained sand.			Hydrated granular bentonite (0.132 cubic feet)	Resume on 3/22/06 with DP rig.
	10 -	Waste Fill 10 YR 2/1 black, dry, mixed with organics, glass, plastic, strong paint-like odor.			Dry granular bentonite (0.044 cubic feet)  Sand filter pack (0.022 cubic feet) 6 in. stainless steel mesh probe tip.  Hydrated granular bentonite (0.044 feet)	Sleeve twisted in
233.GPJ GEOSNTEC.GDT 29/6/06	-	Total Depth = 14 ft.				sampler due to piece of wood in hole. Backfilled with hydrated granular bentonite to 12 ft. to construct vapor well.
LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT	CONT			3 32.96		
LOG W/			STING GLE	-117.0 Vertic		

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

BEARING -----

REVIEWER V. Wittig PRINTED 29 Jun 06



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GS FORM: CORE3 10/00

LOGGERC. Gale

REVIEWER V. Wittig PRINTED 29 Jun 06

### **BOREHOLE LOG**

**BORING** PVP-10B

START DATE 22 Mar 06

Elevation 643.15 FT. MSL

SHEET 1 OF 2

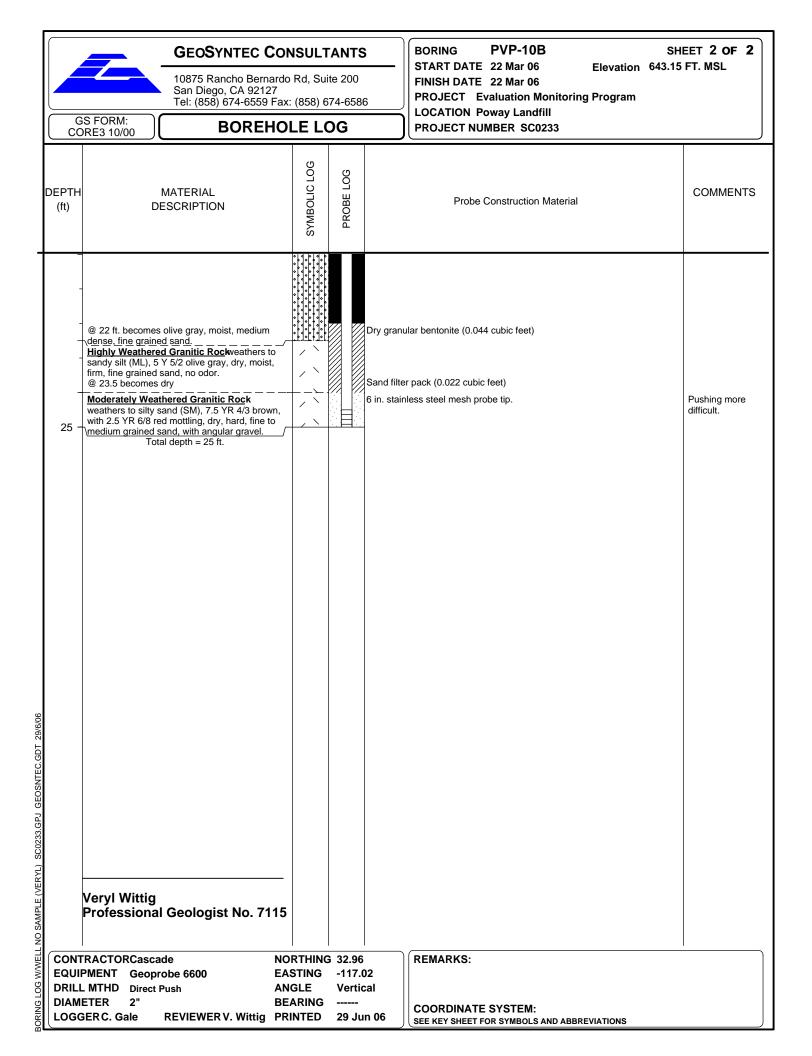
FINISH DATE 22 Mar 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand with Gravel (COVER FILL) 10 YR 5/4 yellowish brown, moist, medium grained sand, angular gravel, little cobbles and clay.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser, in a 3 ft. by 4 ft. concrete pad (4 cubic feet). Within PVC riser is 6 in. of sand (0.044 cubic feet) overlying 2 ft. of hydrated granular betonite (0.18 cubic feet), probe is 1/4 in. OD HDPE tubing.	Post hole Digge and Dig Bar use to 3 ft. on 3/21/0
-	@ 3 ft. becomes 10 YR 5/1 gray.  @ 4 ft. becomes 10 YR 5/3 brown, dry, soft,				Resume with DI rig on 3/22/06.
5 -	fine grained sand.  Waste Fill 10 YR 2/1 black, dry, mixed with				
10 -	organics, glass, plastic, strong paint-like odor.			Hydrated granular bentonite (0.42 cubic feet)	
15 -	@14.5 ft. becomes mixed with glass, plastic and little organics.				
-	Silty Sand (SM)5 Y 5/2 olive gray, dry, loose, fine to medium grained sand, with gravel.				
20	@ 19 ft. becomes 10 YR 5/3 brown.				
	RACTORCascade N	ORTHING	32.96	REMARKS:	



## OFF-SITE SOIL VAPOR WELL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

# GS FORM: CORE3 10/00

DRILL MTHD Direct Push

2"

LOGGER D. Skippon REVIEWER V. Wittig PRINTED

DIAMETER

**ANGLE** 

BEARING -----

Vertical

29 Jun 06

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

**GEOSYNTEC CONSULTANTS** 

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**BOREHOLE LOG** 

**BORING** VW-1A

SHEET 1 OF 1 Elevation 620.83 FT. MSL

START DATE 11 Apr 06 FINISH DATE 11 Apr 06

**PROJECT Evaluation Monitoring Program LOCATION Poway Landfill** 

PROJECT NUMBER SC0233

<u> </u>	5KE0 10/00				
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
- - -	Asphalt 0-3"  Fill, Silty Sand (SM), fine to medium grained, dark yellowish brown [10 YR 3/4], moist, trace gravel, no odor.  Silty Sand (SM) fine grained, dark yellowish brown [10 YR 3/4], moist, trace gravel, no odor.			1	Hand Auger to 3 f bgs.  Direct push to target depth.
5 -	Total Depth = 5 ft.	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			
	Veryl Wittig Professional Geologist No. 7115				
EQUI	PMENT Geoprobe EA	RTHING STING	32.96 -117.0	02	I

# GS FORM: CORE3 10/00

### **GEOSYNTEC CONSULTANTS**

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**BOREHOLE LOG** 

**BORING VW-1B** 

Elevation 620.87 FT. MSL

SHEET 1 OF 1

START DATE 11 Apr 06 FINISH DATE 11 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

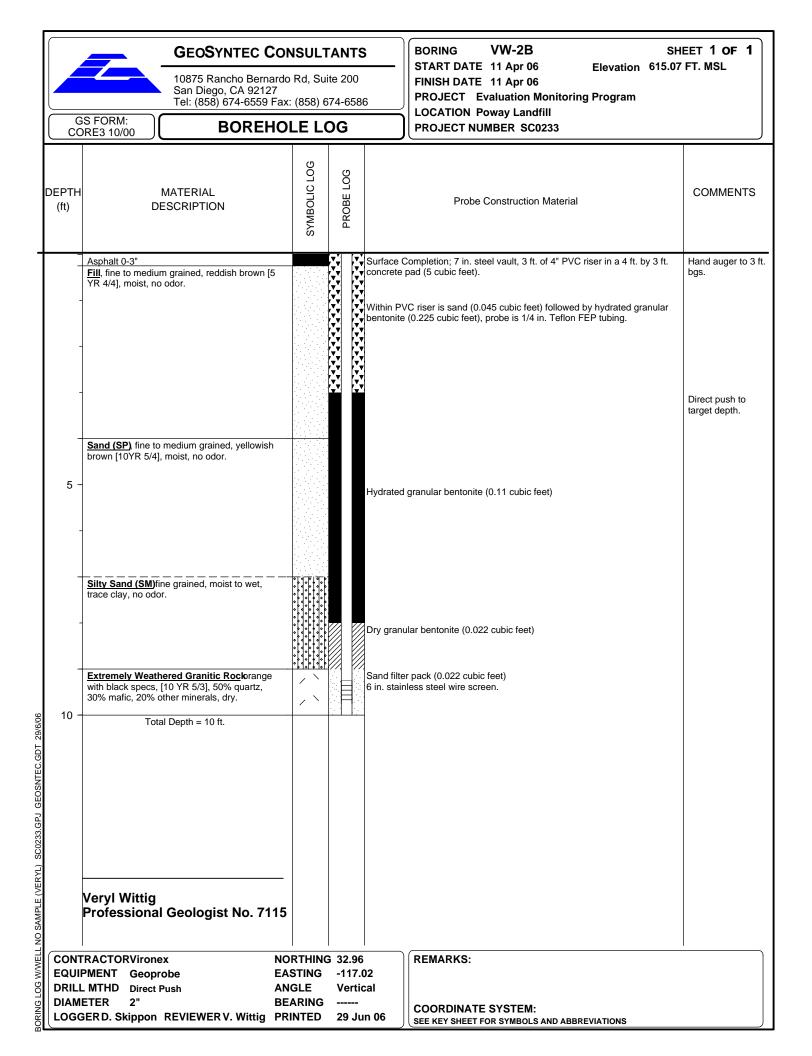
$\overline{}$	DRE3 10/00	BOKLIIOI		<u> </u>		PROJECT NUMBER 3C0233	
DEPTH (ft)		ERIAL RIPTION	SYMBOLIC LOG	PROBE LOG		Probe Construction Material	COMMENTS
- -	Asphalt 0-3" Fill, Silty Sand (SM), fin dark yellowish brown [10 gravel, no odor.	e to medium grained, 0 YR 3/4], moist, trace			Surface C concrete   Within PV bentonite	ompletion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft and (5 cubic feet).  C riser is sand (0.045 cubic feet) followed by hydrated granula (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	bgs.
-	Silty Sand (SM) fine grabrown [10 YR 3/4], mois odor.	ained, dark yellowish tt, trace gravel, no		<b>₹</b>			Direct push to target depth.
5 -	@ 6 ft. becomes 10 YR				Hydrated	granular bentonite (0.11 cubic feet)	
	Extremely Weathered with black specs, [10 YF	R 5/3], 50% quartz,	/ \		Dry granu	lar bentonite (0.022 cubic feet)	
-	20% mafic, 30% other n	ninerals, dry.	/ \		Sand filte	pack (0.022 cubic feet)	
10 -	Total Dep	th – 10 ft	/ \		6 in. stain	ess steel wire screen.	
	Veryl Wittig Professional Ge	ologist No. 7115					
	FRACTORVironex PMENT Geoprobe		RTHING STING	32.96 -117.0		REMARKS:	
DRIL	L MTHD Direct Push	ANG	GLE	Vertic			
	ETER 2" GERD. Skippon REV	BE/ IEWERV. Wittig PRI	ARING	 29 Ju	n 06	COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS	

### **BORING** VW-2A SHEET 1 OF 1 **GEOSYNTEC CONSULTANTS** START DATE 11 Apr 06 Elevation 615.00 FT. MSL 10875 Rancho Bernardo Rd, Suite 200 FINISH DATE 11 Apr 06 San Diego, CA 92127 **PROJECT Evaluation Monitoring Program** Tel: (858) 674-6559 Fax: (858) 674-6586 LOCATION Poway Landfill GS FORM: **BOREHOLE LOG PROJECT NUMBER SC0233** CORE3 10/00 SYMBOLIC LOG PROBE LOG DEPTH COMMENTS **MATERIAL Probe Construction Material DESCRIPTION** (ft) Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. v concrete pad (5 cubic feet). Asphalt 0-3" Hand auger to 3 ft. **Fill**, fine to medium grained, reddish brown [5 YR 4/4], moist, no odor. bgs. Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing. Direct push to Hydrated granular bentonite (0.011 cubic feet) target depth. Dry granular bentonite (0.011 cubic feet) Sand (SP), fine to medium grained, yellowish Sand filter pack (0.022 cubic feet) brown [10YR 5/4], moist, no odor. 6 in. stainless steel wire screen. 5 Total Depth = 5 ft. BORING LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06 Veryl Wittig Professional Geologist No. 7115

NORTHING 32.96 **CONTRACTORVironex EQUIPMENT** Geoprobe **EASTING -117.02** DRILL MTHD Direct Push **ANGLE** Vertical **DIAMETER** 2" **BEARING** LOGGERD. Skippon REVIEWER V. Wittig PRINTED 29 Jun 06

**REMARKS:** 

**COORDINATE SYSTEM:** 



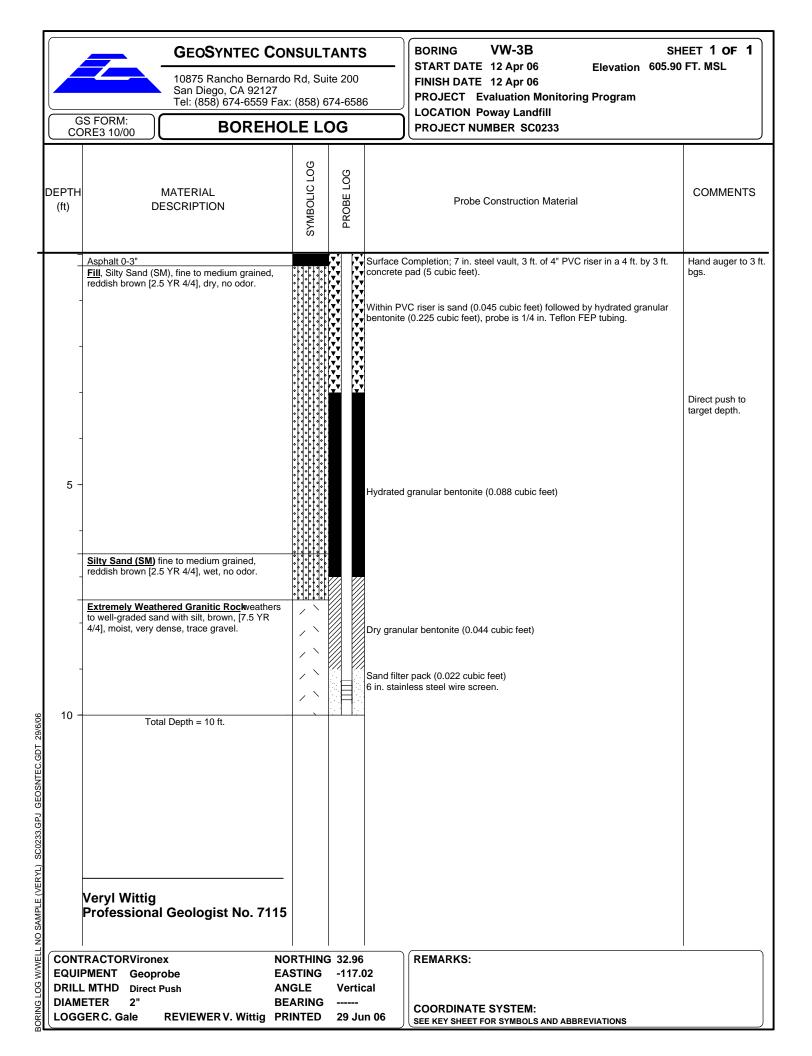
### **BORING** VW-3A SHEET 1 OF 1 **GEOSYNTEC CONSULTANTS** START DATE 12 Apr 06 Elevation 605.86 FT. MSL 10875 Rancho Bernardo Rd, Suite 200 FINISH DATE 12 Apr 06 San Diego, CA 92127 **PROJECT Evaluation Monitoring Program** Tel: (858) 674-6559 Fax: (858) 674-6586 LOCATION Poway Landfill GS FORM: **BOREHOLE LOG PROJECT NUMBER SC0233** CORE3 10/00 SYMBOLIC LOG PROBE LOG DEPTH COMMENTS **MATERIAL Probe Construction Material DESCRIPTION** (ft) Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. Asphalt 0-3" Hand auger to 3 ft. Fill, Silty Sand (SM), fine to medium grained, reddish brown [2.5 YR 4/4], dry, no odor. concrete pad (5 cubic feet). bgs. WWW Within PVC riser is sand (0.045 cubic feet) followed by hydrated by bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing. Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular Direct push to Hydrated granular bentonite (0.011 cubic feet) target depth. Dry granular bentonite (0.011 cubic feet) Sand filter pack (0.022 cubic feet) 6 in. stainless steel wire screen. 5 Total Depth = 5 ft. BORING LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06 Veryl Wittig Professional Geologist No. 7115 NORTHING 32.96 **REMARKS:**

**CONTRACTORVironex EQUIPMENT** Geoprobe DRILL MTHD Direct Push DIAMETER 2"

LOGGER C. Gale

**EASTING -117.02 ANGLE** Vertical **BEARING** REVIEWER V. Wittig PRINTED 29 Jun 06

**COORDINATE SYSTEM:** 



### **BORING** VW-4A SHEET 1 OF 1 **GEOSYNTEC CONSULTANTS** START DATE 12 Apr 06 Elevation 604.69 FT. MSL 10875 Rancho Bernardo Rd, Suite 200 FINISH DATE 12 Apr 06 San Diego, CA 92127 **PROJECT Evaluation Monitoring Program** Tel: (858) 674-6559 Fax: (858) 674-6586 LOCATION Poway Landfill GS FORM: **BOREHOLE LOG PROJECT NUMBER SC0233** CORE3 10/00 SYMBOLIC LOG PROBE LOG DEPTH COMMENTS **MATERIAL Probe Construction Material DESCRIPTION** (ft) Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. Asphalt 0-3" Hand auger to 3 ft. Fill, Silty Sand (SM), fine to medium grained, concrete pad (5 cubic feet). bgs. olive brown [2.5 Y 4/3], loose, dry,trace gravel, WWW Within PVC riser is sand (0.045 cubic feet) followed by hydrated by bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing. Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular Direct push to Hydrated granular bentonite (0.011 cubic feet) target depth. Dry granular bentonite (0.011 cubic feet) Silty Sand (SM) fine to medium grained, olive Sand filter pack (0.022 cubic feet) brown [2.5 Y 4/3], loose, dry,trace gravel, no 6 in. stainless steel wire screen. odor. 5 Total Depth = 5 ft. BORING LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06 Veryl Wittig Professional Geologist No. 7115 NORTHING 32.96 **CONTRACTORVironex REMARKS:**

**EASTING -117.02** 

Vertical

29 Jun 06

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

**ANGLE** 

**BEARING** 

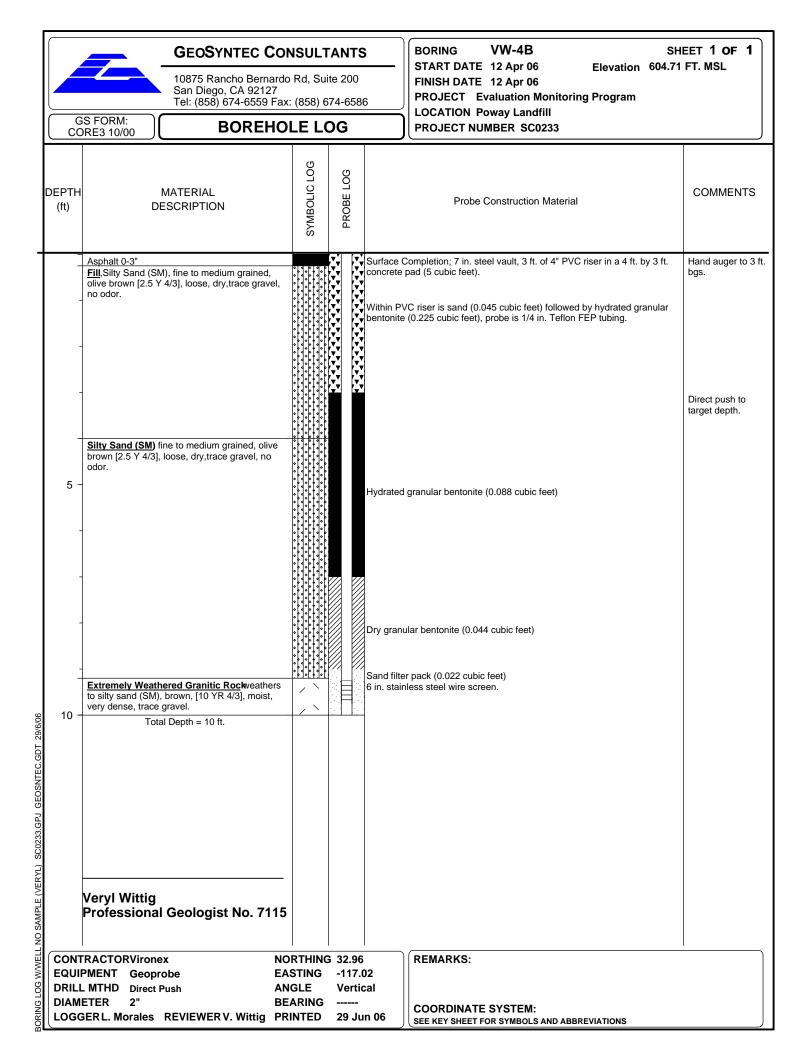
**EQUIPMENT** Geoprobe

DRILL MTHD Direct Push

2"

LOGGERL. Morales REVIEWER V. Wittig PRINTED

DIAMETER





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GS FORM: CORE3 10/00

DIAMETER

2"

LOGGERL. Morales REVIEWER V. Wittig PRINTED

**BEARING** 

29 Jun 06

### **BOREHOLE LOG**

**BORING** VW-5A

SHEET 1 OF 1 Elevation 606.09 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

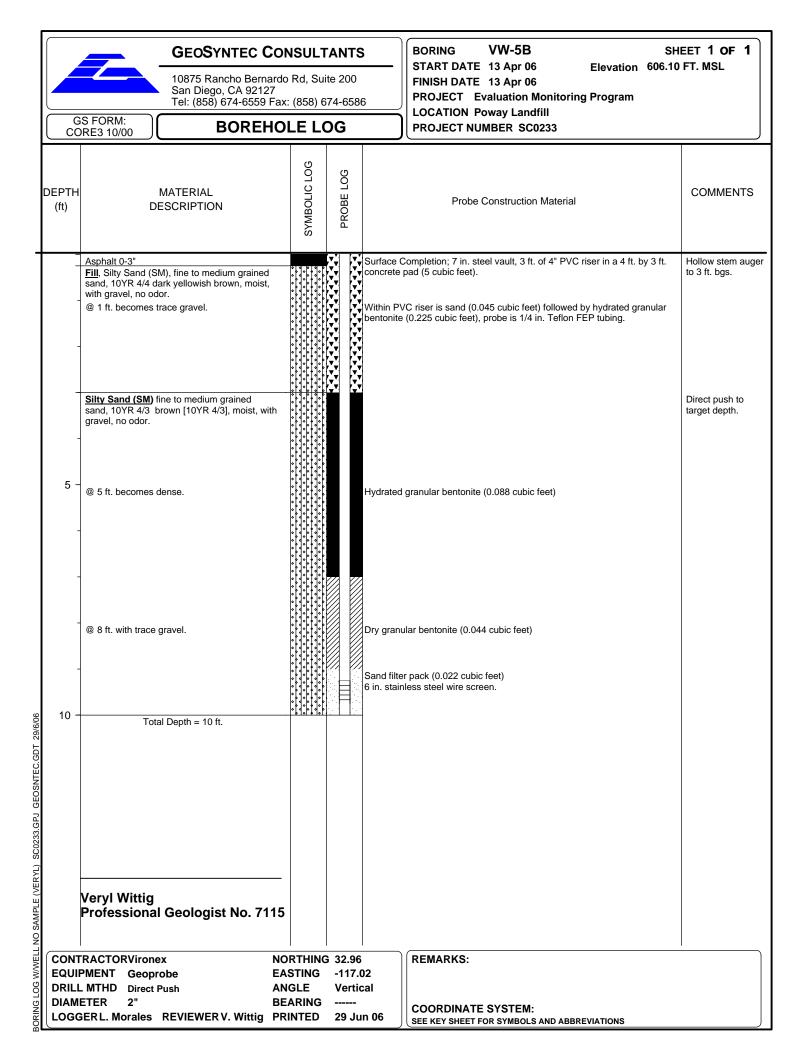
**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

$\overline{cc}$	CORE3 10/00 BORLITOLL		<del></del>	PROJECT NUMBER 300233		
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS	
- -	Asphalt 0-3"  Fill, Silty Sand (SM), fine to medium grain sand, 10YR 4/4 dark yellowish brown, moi with gravel, no odor.  @ 1 ft. becomes trace gravel.	ed [h]^[h]^[i		Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	Hollow stem auç to 3 ft. bgs.	
-	Silty Sand (SM) fine to medium grained sand, 10YR 4/3 brown [10YR 4/3], moist, gravel, no odor.	with		Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)  Sand filter pack (0.022 cubic feet)  6 in. stainless steel wire screen.	Direct push to target depth.	
5 -	Total Depth = 5 ft.					
	Veryl Wittig Professional Geologist No. 7	115				
EQUI	   TRACTORVironex   PMENT Geoprobe   L MTHD Direct Push	NORTHING EASTING ANGLE	32.96 -117.02 Vertica			

**COORDINATE SYSTEM:** 



# GS FORM: CORE3 10/00

DRILL MTHD Direct Push

DIAMETER 2"

**GEOSYNTEC CONSULTANTS** 

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### **BOREHOLE LOG**

**BORING** VW-6A

SHEET 1 OF 1 Elevation 603.44 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

PROJECT NUMBER SC0233

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
- - -	Asphalt 0-3"  Fill, fine to medium grained sand, dark yellowish brown [10YR 4/4], moist, trace gravel, no odor.  @ 2.5 ft. becomes 7.5 YR 3/2 dark brown. Silty Sand (SM) fine to medium grained sand, dark brown [7.5 YR 3/2], moist,		*************	Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.  Hydrated granular bentonite (0.011 cubic feet)	Hollow stem auge to 3 ft. bgs.
5 -	trace gravel, no odor.  Total Depth = 5 ft.			Dry granular bentonite (0.011 cubic feet)  Sand filter pack (0.022 cubic feet) 6 in. stainless steel wire screen.	target depth.
	Veryl Wittig Professional Geologist No. 7115				

Vertical

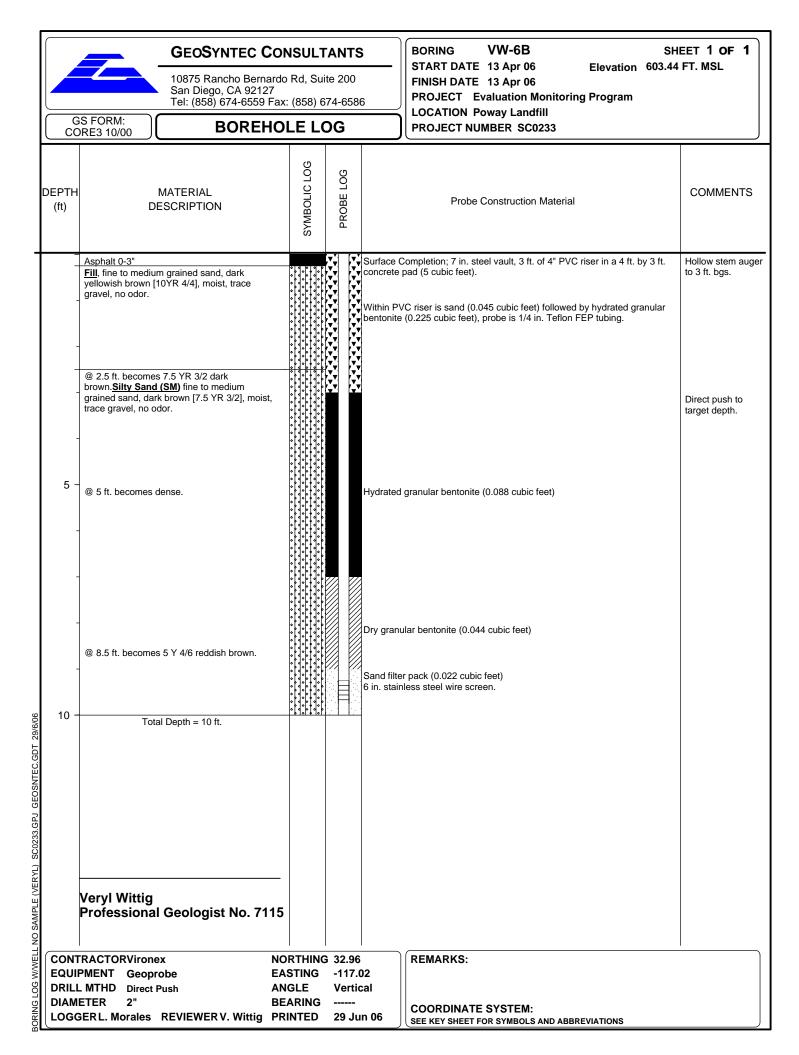
**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

ANGLE

LOGGERL. Morales REVIEWER V. Wittig PRINTED 29 Jun 06

BEARING -----



# GS FORM: CORE3 10/00

DRILL MTHD Direct Push

2"

LOGGERL. Morales REVIEWER V. Wittig PRINTED

DIAMETER

**ANGLE** 

BEARING

Vertical

29 Jun 06

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

# **GEOSYNTEC CONSULTANTS**

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**BOREHOLE LOG** 

**BORING** VW-7A

SHEET 1 OF 1 Elevation 599.86 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Asphalt 0-3" <u>Fill.</u> Silty Sand (SM), fine to medium grained sand, brown [10YR 4/3], moist, trace gravel, no odor.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	Begin direct pu to 5 ft. then aug to 3 ft.
-	Silty Sand (SM) fine to medium grained sand, brown [10YR 4/3], moist, dense, with gravel, no odor.		<b>*</b>	Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)  Sand filter pack (0.022 cubic feet)	
5 -	@ 4.2 ft. becomes 7.5 YR 3/2 dark brown.  Total Depth = 5 ft.			6 in. stainless steel wire screen.	
	Veryl Wittig Professional Geologist No. 7115				



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING VW-7B** 

SHEET 1 OF 1 Elevation 599.82 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

PROJECT	NUMBER	SC0233

CORE3 10/00 BUREH		HOLL L		PROJECT NUMBER SC0233		
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	IMENTS	
	Asphalt 0-3" <u>Fill</u> , Silty Sand (SM), fine to medium graine sand, brown [10YR 4/3], moist, trace grave odor.	d I, no		Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Begin of to 10 ft to 3 ft.  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	direct pus . then au	
5 -	Silty Sand (SM) fine to medium grained sand, brown [10YR 4/3], moist, dense, with gravel, no odor.  @ 4.2 ft. becomes 7.5 YR 3/2 dark brown.			Hydrated granular bentonite (0.088 cubic feet)		
-	@ 7.9 ft. becomes moist to wet.			Dry granular bentonite (0.044 cubic feet)		
-	@ 9 ft. becomes very dense.			Sand filter pack (0.022 cubic feet)		
10 -	@ 9.8 ft. becomes dry.			6 in. stainless steel wire screen.		
Ī	Veryl Wittig Professional Geologist No. 7	115				
	RACTORVironex PMENT Geoprobe	NORTHING EASTING		REMARKS:		
DRILL DIAME	. MTHD Direct Push	ANGLE BEARING	Vertic	COORDINATE SYSTEM		



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GS FORM:

# **BOREHOLE LOG**

**BORING A8-WV** 

SHEET 1 OF 1 Elevation 596.61 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

<u>co</u>	CORE3 10/00 BOREHOLE I		G	PROJECT NUMBER SC0233	
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Asphalt 0-3"  Fill, Silty Sand (SM), fine to medium graine sand, brown [10YR 4/3], dry, trace gravel, odor.  Silty Sand (SM) fine to medium grained sand, dark brown [7.5 YR 3/2], dry, trace	d no	▼     ♥ ▼	Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. oncrete pad (5 cubic feet).  Vithin PVC riser is sand (0.045 cubic feet) followed by hydrated granular entonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	Hollow stem aug to 3 ft. bgs.
5 -	gravel, no odor.		D S	lydrated granular bentonite (0.011 cubic feet) bry granular bentonite (0.011 cubic feet) and filter pack (0.022 cubic feet) in. stainless steel wire screen.	Direct push to target depth.
	Total Depth = 5 ft.				
	Veryl Wittig Professional Geologist No. 7	115			
<b>EQUIF</b>	RACTORVironex PMENT Geoprobe		-117.02		1
DIAME	. MTHD Direct Push ETER 2" GERL. Morales REVIEWERV. Wittig	BEARING	Vertica  29 Jun	COORDINATE SYSTEM:	



10875 Rancho Bernardo Rd, Suite 200 San Diego, CA 92127 Tel: (858) 674-6559 Fax: (858) 674-6586

GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING VW-8B** 

SHEET 1 OF 1 Elevation 596.67 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

CC	DRE3 10/00	OKEHULE L	<u>UG</u>	PROJECT NUMBER SC0233	
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Asphalt 0-3"  Fill, Silty Sand (SM), fine to mediuly sand, brown [10YR 4/3], dry, trace odor.  Silty Sand (SM) fine to medium gr. sand, dark brown [7.5 YR 3/2], dry, gravel, no odor.	gravel, no	V   V   Cond	ace Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 rete pad (5 cubic feet).  in PVC riser is sand (0.045 cubic feet) followed by hydrated granu onite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	to 3 ft. bgs.
5 -	@ 8 ft. becomes moist.			rated granular bentonite (0.088 cubic feet) granular bentonite (0.044 cubic feet)	
10 -	Total Depth = 10 ft.		Sand 6 in.	d filter pack (0.022 cubic feet) stainless steel wire screen.	
	Veryl Wittig Professional Geologist	No. 7115			
EQUII DRILL DIAM	FRACTORVironex  PMENT Geoprobe  L MTHD Direct Push  ETER 2"  GERL. Morales REVIEWERV	ANGLE BEARING	-117.02 Vertical 	REMARKS:  COORDINATE SYSTEM: SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS	



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING VW-9** 

SHEET 1 OF 1 Elevation 601.13 FT. MSL

START DATE 12 Apr 06 FINISH DATE 12 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

PROJECT	NUMBER	SC0233

CC	DRE3 10/00 BUREHUL		LE LOG			PROJECT NUMBER SC0233	
DEPTH (ft)		MATERIAL ESCRIPTION	SYMBOLIC LOG	PROBE LOG		Probe Construction Material	COMMENTS
5 -	Poorly graded sa medium grained sa brown and 10 YR sodor.  @ 3.5 ft. becomes	and with silt (SM), fine to and, brown [7.5 YR 4/4], dry,  and with silt (SM) fine to and, mottled 7.5 YR 3/4 dark 5/4 yellowish brown, dry, no  2.5R 5/3 light olive brown.  7.5 YR 4/3 brown.  al Depth = 5 ft.			Hydrated of Dry granul	Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 and (5 cubic feet).  Could riser is sand (0.045 cubic feet) followed by hydrated granul (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.  Granular bentonite (0.011 cubic feet)  Italiar bentonite (0.011 cubic feet)  To pack (0.022 cubic feet)  To pack (0.022 cubic feet)  To pack (0.025 cubic feet)  To pack (0.026 cubic feet)	ft. Hollow stem aug to 3 ft. bgs.  ar  Direct push to target depth.
	Veryl Wittig Professional	Geologist No. 7115					
EQUI	FRACTORVirone	obe EAS	RTHING STING		)2	REMARKS:	

BORING LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06

DRILL MTHD Direct Push **ANGLE** Vertical DIAMETER 2" **BEARING** LOGGERL. Morales REVIEWER V. Wittig PRINTED 29 Jun 06

**COORDINATE SYSTEM:** 

# **BORING** VW-10 SHEET 1 OF 1 **GEOSYNTEC CONSULTANTS** START DATE 12 Apr 06 Elevation 619.23 FT. MSL 10875 Rancho Bernardo Rd, Suite 200 FINISH DATE 12 Apr 06 San Diego, CA 92127 **PROJECT Evaluation Monitoring Program** Tel: (858) 674-6559 Fax: (858) 674-6586 LOCATION Poway Landfill GS FORM: **BOREHOLE LOG PROJECT NUMBER SC0233** CORE3 10/00 SYMBOLIC LOG PROBE LOG DEPTH COMMENTS **MATERIAL Probe Construction Material DESCRIPTION** (ft) Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. Asphalt 0-3" Hollow stem auger Fill, Silty Sand (SM), fine to medium grained sand, reddish brown [2.5 YR 4/4], dry, trace to 3 ft. bgs. concrete pad (5 cubic feet). WWW Within PVC riser is sand (0.045 cubic feet) followed by hydrated by bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing. coarse grained sand, no odor. Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular Direct push to Hydrated granular bentonite (0.011 cubic feet) target depth. Dry granular bentonite (0.011 cubic feet) Sand filter pack (0.022 cubic feet) 6 in. stainless steel wire screen. 5 Total Depth = 5 ft. BORING LOG W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06 Veryl Wittig Professional Geologist No. 7115

NORTHING 32.96 **CONTRACTORVironex EQUIPMENT** Geoprobe **EASTING -117.02** DRILL MTHD Direct Push **ANGLE** Vertical DIAMETER 2" **BEARING** LOGGERL. Morales REVIEWER V. Wittig PRINTED 29 Jun 06 **REMARKS:** 

**COORDINATE SYSTEM:** 



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING VW-11** 

SHEET 1 OF 1 Elevation 598.18 FT. MSL

START DATE 13 Apr 06 FINISH DATE 13 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

	RE3 10/00	BOKEHOL			PROJECT NUMBER SC0233	
DEPTH (ft)	MATERI DESCRIP		SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Asphalt 0-3"  Fill, Silty Sand (SM), fine to sand, olive brown [2.5 Y 4/3 grained sand, no odor.	n medium grained 3], dry, trace coarse		<b>X</b> X	Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	Hollow stem aug to 3 ft. bgs.
	Silty Sand (SM) medium to sand, olive brown [2.5 Y 4/3 grained sand, no odor.  @ 4 ft. becomes 2.5 Y 4/2 c	3], dry, trace coarse			Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)  Sand filter pack (0.022 cubic feet) 6 in. stainless steel wire screen.	Direct push to target depth.
5 +	Total Depth =	= 5 ft.				
	Veryl Wittig Professional Geolo	ogist No. 7115				
EQUIP DRILL DIAME	RACTORVironex PMENT Geoprobe MTHD Direct Push ETER 2" ERL. Morales REVIEV	EAS ANG BEA	ARING		al COORDINATE SYSTEM:	

# GS FORM: CORE3 10/00

DRILL MTHD Direct Push

DIAMETER 2'

LOGGER C. Gale

**ANGLE** 

REVIEWER V. Wittig PRINTED

BEARING -----

Vertical

29 Jun 06

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

# **GEOSYNTEC CONSULTANTS**

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BC

**BORING VW-12** 

SHEET 1 OF 1 Elevation 576.97 FT. MSL

START DATE 28 Apr 06 FINISH DATE 28 Apr 06

**PROJECT Evaluation Monitoring Program** 

OCATION Poway Landfill 0233

	LOCATION Poway Landi
OREHOLE LOG	PROJECT NUMBER SC0

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Asphalt 0-3"  Fill Silty Sand with gravel (SM), medium grained sand, dark brown [10YR 3/3], dry, no odor.  @ 2 ft. becomes 7.5 YR 3/4 dark brown with trace gravel.			Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.  Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)	Hand auger to 3 ft bgs.  Direct push to target depth.
CONT EQUIL	Silty Sand (SM)medium grained sand, dark brown [10YR 3/3], dry, trace clay and gravel, no odor.  Total Depth = 5 ft.			Sand filter pack (0.022 cubic feet) 6 in. stainless steel wire screen.	
CONT			32.96 -117.		



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING** VW-13

SHEET 1 OF 1 Elevation 583.41 FT. MSL

START DATE 28 Apr 06 FINISH DATE 28 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

CC	ORE3 10/00 BUREHULE		<i>J</i> G	PROJECT NUMBER SC0233	
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Asphalt 0-3"  Fill Silty Sand with gravel (SM), medium grained sand, very dark brown [10 YR 3/2], medium grained sand, dry, no odor.  @ 1.5 ft. becomes 2.5 Y 5/3 light olive brown.  Extremely Weathered Granitic Rockweathers to silty sand (SM), olive brown [2.5 Y 4/3], dry,			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.  Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)	Hollow stem auger to 3 ft. bgs.  Direct push to target depth.
-	no odor.  Total Depth = 5 ft.	/ /		Sand filter pack (0.022 cubic feet) 6 in. stainless steel wire screen.	
CONT					
CONT		ORTHING	32.96 -117.0	REMARKS:	

W/WELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/6/06

DRILL MTHD Direct Push **ANGLE** Vertical DIAMETER 2' **BEARING** LOGGER C. Gale **REVIEWER V. Wittig PRINTED** 29 Jun 06

**COORDINATE SYSTEM:** 



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING** VW-14

SHEET 1 OF 1 Elevation 612.11 FT. MSL

START DATE 28 Apr 06 FINISH DATE 28 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

	CORE3 10/00   BONZETTOEE					
	DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	-	Asphalt 0-3"  Fill, Silty Sand with gravel (SM), medium sand, dark brown [10YR 3/3], moist, no odor.			Surface Completion; 7 in. steel vault, 3 ft. of 4" PVC riser in a 4 ft. by 3 ft. concrete pad (5 cubic feet).  Within PVC riser is sand (0.045 cubic feet) followed by hydrated granular bentonite (0.225 cubic feet), probe is 1/4 in. Teflon FEP tubing.	Hollow stem auger to 3 ft. bgs.
	_	Silty Sand with gravel (SM)medium sand, olive brown [2.5 Y 4/3], dry, no odor.  Extremely Weathered Granitic Rock			Hydrated granular bentonite (0.011 cubic feet)  Dry granular bentonite (0.011 cubic feet)  Sand filter pack (0.022 cubic feet)	Direct push to target depth.
	-	weathers to sandy clay with gravel (CL), yellowish brown [10 YR 5/4], dry, no odor.  Total Depth = 5 ft.	, \		6 in. stainless steel wire screen.	
NTEC.GDT 29/6/06						
WWELL NO SAMPLE (VERYL) SC0233.GPJ GEOSNTEC.GDT 29/						
NO SAMPLE (VERYL)		Veryl Wittig Professional Geologist No. 7115				
W/WELL			RTHING STING	32.96 -117.		

DRILL MTHD Direct Push DIAMETER 2' LOGGERS. McClain REVIEWER V. Wittig PRINTED

ANGLE Vertical BEARING -----

29 Jun 06

**COORDINATE SYSTEM:** 

R MONITOR WI CONSTRUCTIO	OGS AND WELL



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING POGW-20** 

SHEET 1 OF 3 Elevation 620.00 FT. MSL START DATE 10 Apr 06

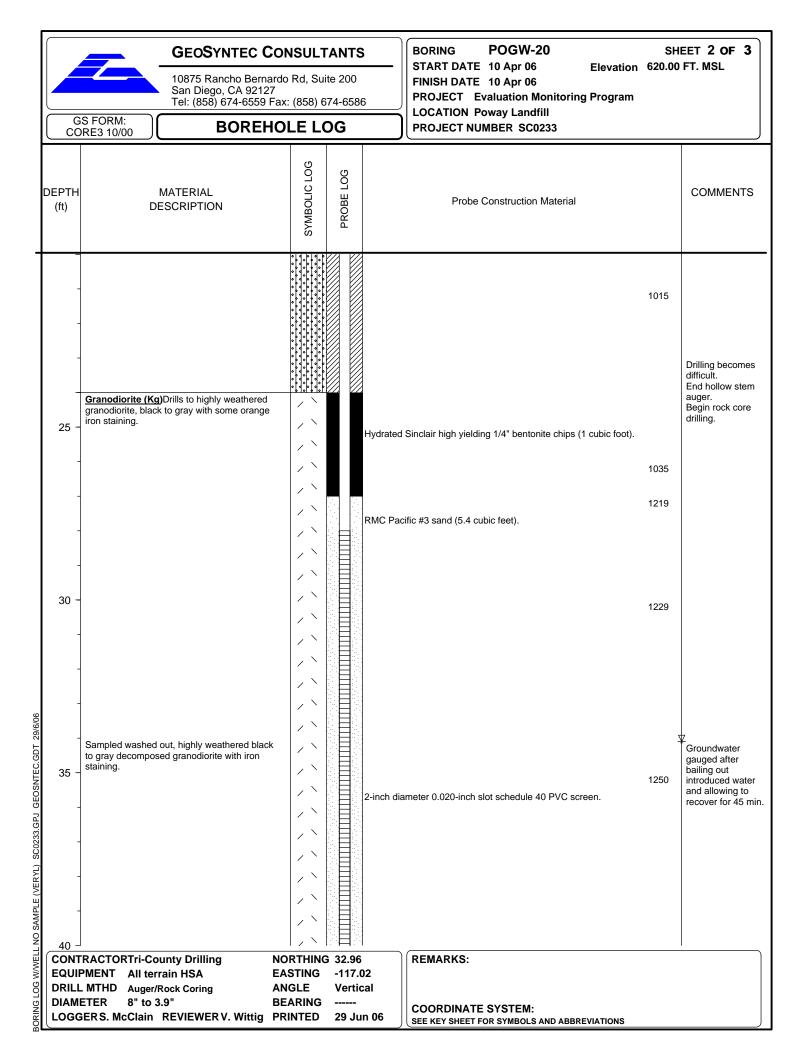
FINISH DATE 10 Apr 06

PROJECT Evaluation Monitoring Program

LOCATION Powav Landfill

М	LOCATION TOWay L	anunn
	PROJECT NUMBER	SC0233

CORE3 10/00 BUREHULE		OLE L	<u> </u>	PROJECT NUMBER SC0233
DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material COMMENT
-	Poorly Graded Sand (SP)moist, yellowish brown [10 YR 5/6], fine to medium grained sand.			Surface Completion - 12-inch well box set in a 4-foot by 4-foot concrete Begin hollow stauger.  Begin hollow stauger.
5 -	@ 3.5 ft. becomes dry			
-				2-inch diameter schedule 40 PVC casing.
10 -				Volclay grout (6.7 cubic feet).
15 -	Silty Sand (SM)moist, reddish brown [5 YR 4/4], fine to medium grained sand with trace clay.			
EQUIF DRILL DIAME	PMENT All terrain HSA E MTHD Auger/Rock Coring	NORTHING EASTING ANGLE BEARING	3 32.96 -117.0 Vertice  29 Ju	COORDINATE SYSTEM:





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GS FORM: CORE3 10/00

DRILL MTHD Auger/Rock Coring

DIAMETER 8" to 3.9"

ANGLE

LOGGERS. McClain REVIEWERV. Wittig PRINTED 29 Jun 06

BEARING -----

Vertical

**COORDINATE SYSTEM:** 

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

# **BOREHOLE LOG**

**BORING** POGW-20

START DATE 10 Apr 06

Elevation 620.00 FT. MSL

SHEET 3 OF 3

FINISH DATE 10 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

DEPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
	Total Depth = Approximately 44 ft. bgs.	/ / / / / / /		1303	
CON <sup>1</sup>		RTHING	32.96 -117.(		



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GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING** POGW-21

START DATE 11 Apr 06

SHEET 1 OF 2 Elevation 617.92 FT. MSL

FINISH DATE 11 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

EPTH (ft)	MATERIAL DESCRIPTION	SYMBOLIC LOG	PROBE LOG	Probe Construction Material	COMMENTS
-	Poorly Graded Sand with Silt (SP) noist, fine to medium grained sand, dark reddish brown, loose.			Surface Completion - 12-inch well box set in a 4-foot by 4-foot concress20ad (Approximately 6 cubic feet).	Begin hollow steauger.
5 -	@ 4 ft. becomes dry.			0937 2-inch diameter schedule 40 PVC casing.	
10 -	@ 10 ft. increase in fines.			Volclay grout (3.2 cubic feet). 0946	
-	@ 12 ft. becomes moist.  Granodiorite (Kg)drills to highly weathered granodiorite, moist, fine to medium grained,				
15 -	brown, medium dense.			Hydrated Sinclair high yielding 1/4" bentonite chips (1 cubic foot).  1000  RMC Pacific #3 sand (5.7 cubic feet).	
20					Drilling become difficult.
CONT	PMENT All terrain HSA  MTHD Auger/Rock Coring	NORTHING EASTING ANGLE BEARING	32.96 -117.0 Vertic	02	



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LOGGERS. McClain REVIEWER V. Wittig PRINTED 29 Jun 06

GS FORM: CORE3 10/00

# **BOREHOLE LOG**

**BORING** POGW-21

START DATE 11 Apr 06

Elevation 617.92 FT. MSL

SHEET 2 OF 2

FINISH DATE 11 Apr 06

**PROJECT Evaluation Monitoring Program** 

**LOCATION Poway Landfill** 

**PROJECT NUMBER SC0233** 

25 -	@ 31 ft. becomes slightly moist.		1045 2-inch diameter 0.020-inch slot schedule 40 PVC screen.	Groundwater guaged on 4/11/0 at 1510.  Groundwater encountered durind rilling.
Т	Total Depth = Approximately 33.5 ft. bgs.		1210	
V	Veryl Wittig Professional Geologist No. 7115			